

REMARKS

Claims 1– 4 have been examined. Claims 1 and 3 stand rejected separately under 35 U.S.C. § 102(b) as anticipated by US Patent No. 5,971,355 (“Biegelsen”) and as anticipated by US Patent No. 5,836,750 (“Cabuz”); and Claims 2 and 4 stand rejected separately under 35 U.S.C. § 103(a) as unpatentable over Biegelsen in view of US Patent No. 5,452,878 (“Gravesen”) and as unpatentable over Cabuz in view of Gravesen.

Claim 1 has been amended to recite that the second electrode forms at least part of a floor of the flow channel. Support for the amendment is provided in the application at p. 5, ll. 30 – 31.

1. Biegelsen

Each of independent Claims 1 and 3 requires driving of one or both electrodes, features that are not taught or suggested by Biegelsen. In particular, Claim 1 requires that “application of a potential difference between the first electrode and the second electrode drives the first electrode and the deflectable ceiling of the flow channel into the flow channel” (emphasis added). This mechanism of operation is illustrated by the structure shown in Fig. 1 of the application and related discussion at page 6, lines 1 – 8, and is different from the mechanism of operation for Biegelsen. The Office Action refers to Fig. 10 of Biegelsen as having two electrodes that open and close a valve in response to application of a potential difference (Office Action, page 2). But that embodiment of Biegelsen operates without driving either of the two electrodes into the flow channel as required by the claim. Instead, the valve of Biegelsen operates by constructing the membrane 211 of a magnetically susceptible material and generating an electromagnetic force with the electrodes to drive the membrane (Biegelsen, column 12, lines 32–55).

Similarly, Claim 3 requires that “application of a potential difference between the first electrode and the second electrode drives the first electrode and the second electrode together” (emphasis added). Again, this is a different mechanism for actuating the valve that taught or suggested by Biegelsen. While that reference discloses structure and materials that drive the membrane with electrodes, it fails to teach that the electrodes are driven together upon application of a potential difference between them.

2. Cabuz

The Office Action cites Cabuz as having two electrodes that provide force on a diaphragm 27 (Office Action, page 2). It appears that the Office Action is drawing a correspondence between the “first electrode” recited in Claim 1 and the diaphragm 27 because Cabuz teaches that the diaphragm 27 may be coated with conductive material. But irrespective of whether the “second electrode” recited in the claim is viewed as corresponding to electrode 23 or 25 of Cabuz, that second electrode does not “form[] at least part of a floor of the flow channel” as required by amended Claim 1. Instead, electrodes 23 and 25 are separated from the flow channel by body 21 (*see* Cabuz, Col. 5, ll. 18 – 27 explaining that electrodes are formed by printing, plating, sputtering or EB deposition of metal on the body). Accordingly, Claim 1 is not anticipated by Cabuz.

Also, since the structure of Cabuz includes such intermediate material between electrode 23/25 and diaphragm 27, it does not disclose the first and second electrode being driven together as required by Claim 3.

For the above reasons, Claims 1 and 3 are not anticipated by the cited art and are therefore believed to be patentable. Claims 2 and 4 are believed to be patentable by virtue of their dependence from patentable claims.

Appl. No. 10/045,132
Amdt. dated July 7, 2005
Reply to Office Action of March 7, 2005


PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,


Patrick M. Boucher
Reg. No. 44,037

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 303-571-4000
Fax: 415-576-0300
PMB:pmb
60529738 v1